

JOHNS MONVILLE
Intellectual Property
10100 West Ute Avenue
Littleton, Colorado 80127
(303) 978-2000

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Case Docket No. 6971
Date: April 11, 2003
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THE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Re: Application of: Arterburn
Serial No.: 08/929,836
Filed: September 15, 1997
For: IMPROVED SCREEN FOR FIBERIZING BUSHINGS

Examiner: Hoffmann, John
Unit: 1731

Original #18D

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| <input checked="" type="checkbox"/> Copy of Board of Appeals Decision. | <input type="checkbox"/> Certified copy of Declaration & Power of Attorney (Attachment B). |
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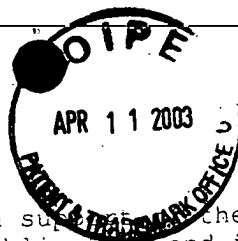
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Robert D. Touslee
Attorney

Robert D. Touslee
Registration No. 34,032
(303) 978-3927

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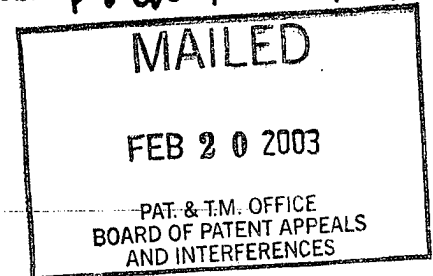
The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCESEx parte RUSSELL DONOVAN ARTERBURNAppeal No. 2000-0035
Application No. 08/929,836

ON BRIEF



Before STONER, Chief Administrative Patent Judge, WARREN and
POTEATE, Administrative Patent Judges.

POTEATE, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 2, 8-15 and 21-24. Claims 1, 3, 5-7 and 16-20 are allowed. Claim 4 is objected to as dependent on a rejected base claim but has been indicated as allowable if redrafted in independent form.¹

¹ See Final Rejection, Paper No. 8, mailed December 15, 1998, page 2.

Claims 2, 11, 21 and 23 are illustrative of the subject matter on appeal and are reproduced below:

2. In a bushing for making fibers from a molten material from channel positions, said bushing comprising at least one sidewall and a tip plate or orifice plate through which molten material flows to form the fibers, and a screen having a plurality of holes therethrough and mounted on the interior of the bushing and space above the top of the tip plate or orifice plate, said screen having holes therein and being attached to said sidewall, the improvement comprises a generally mid or central portion of the screen having a hole area per unit area of screen that is significantly smaller than the hole area per unit area of screen of two end portions of the screen, one end portion being on either side of the mid or central portion, one of said end portions being smaller in area than the other of said end portions with the smaller end portion being closest to the channel.

11. A lay in screen of a precious metal or precious metal alloy for laying on top of another screen in a fiberizing bushing having a plurality of holes therethrough, said lay in screen comprised of a mid or central portion and two end portions, said mid or central portion having a hole area per unit area of the central portion that is significantly less than the hole area of the end portions per unit area of the end portions, one of the end portions being smaller than the other end portion, and the thickness of said screen being between about 0.009 and 0.011 inch.

21. A method for forming fibers from a molten material in a channel position of a multi-bushing fiberizing operation comprising at least one sidewall and a tip plate or orifice plate through which the molten material flows to form the fibers, and a screen spaced above said tip plate having a plurality of holes therein, said screen being attached to said sidewall, the improvement comprising a bushing screen in said bushing having a hole area per unit of screen area in a center portion of the screen that is significantly less than the hole area per unit of screen area in two end portions of the screen, an end portion of the screen closest to the said channel being smaller in area than the other end portion.

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23. In a method for forming fibers from a molten material in a channel position of a multi-bushing fiberizing operation comprising at least one sidewall and a tip plate or orifice plate through which the molten material flows to form the fibers, and a first screen spaced above said tip plate and having a plurality of holes therein, the first screen being attached to said sidewall, the improvement comprising using a second screen lying on top of the first screen, said second screen having a hole diameter and/or hole density in a central portion of the screen that is significantly less than the respective hole diameter and/or hole density in two end portions of the screen such that resistance to flow of molten glass through the central portion of the second screen is greater than the resistance to flow through the two end portions of the second screen.

The references relied upon by the examiner are:

Stalego	3,810,741	May 14, 1974
Hill	4,330,312	May 18, 1982
Marra et al. (Marra)	4,624,693	Nov. 25, 1986

Grounds of Rejection

1. Claims 8-10 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.²

2. Claim 2 stands rejected under 35 U.S.C. § 102(b) as anticipated by Stalego.

3. Claims 21 and 22 stand rejected under 35 U.S.C. § 103 as unpatentable over Stalego.

² The rejection of claims 8-10 under 35 U.S.C. § 112, first paragraph, has been withdrawn. See Examiner's Answer, Paper No. 13, mailed June 30, 1999, page 2, paragraph (6).

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4. Claims 23 and 24 stand rejected under 35 U.S.C. § 103 as unpatentable over Marra.

5. Claims 11-15 stand rejected under 35 U.S.C. § 103 as unpatentable over Hill.

We reverse and enter new grounds of rejection pursuant to 37 CFR § 1.196(b).

Background

Fibers from a molten material such as glass are manufactured by distributing the molten material from a tank furnace into a plurality of fiberizing bushings. Specification, page 1. The fiberizing bushings typically include a tip plate having nozzles into which a molten material flows to form fibers. Id. A screen is positioned between the exit of the tank furnace and the tip plate to homogenize the chemistry and temperature of the molten material and to prevent pieces of unmelted material from entering the tip plate. Id. According to the appellant, conventional screens have a uniform hole pattern and size, and work well provided that the molten material entering the bushings is of a uniform temperature. Id. at page 2. However, if a significantly hotter streak of molten material enters the screen the bushing may break and/or the resultant fiber may be non-uniform. Id.

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Appellant has discovered that by arranging the holes in the screen in a certain manner, he obtains a bushing having a higher efficiency than conventional bushings because the screen performs with a much lower break-out rate of the fibers. Appeal Brief, Paper No. 12, received April 27, 1999, page 2. The invention is further directed to a metal screen which includes this arrangement and may be used in a conventional bushing, and to an improved bushing for use in the manufacture of continuous fibers from a molten material such as glass. Id. The inventive screen is illustrated in Figures 6, 6a and 6b. Id.

Discussion

Claims 8-10 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite due to the term "open area" which appears in claim 8

During patent examination, the PTO gives claim language its "broadest reasonable interpretation." In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). In general, the terms in a patent claim are given their ordinary meaning as used in the field of the invention unless the text of the patent indicates that a word has special meaning. Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342, 60 USPQ2d 1851, 1854 (Fed. Cir. 2001). A patentee may be his own lexicographer provided

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that he sets forth an explicit definition for a claim term in the patent specification. Id.

The examiner maintains that it is unclear from the specification whether the terms "hole area" and "open area" refer to alternative concepts or are two alternative terms for the same concept. Examiner's Answer, page 8, paragraph (11). According to appellant, it is readily apparent from the specification that the term "open area" has the same meaning as the term "hole area."

Appeal Brief, page 6. Appellant references page 5, the penultimate line and page 7, lines 6-9 of the specification wherein "the holes in the screen are defined alternatively as 'openings'" and the terms "hole area and 'open area' are used alternatively." We agree that the referenced portions of the specification clearly indicate that both "hole area" and "open area" have the same meaning/refer to the same concept. We further find that given the explicit use of the term "open area" throughout the specification (see, e.g., page 13, second paragraph and page 16, last paragraph), as well as the description in connection with the term "hole area" (see, e.g., page 7, lines 1-3), one of ordinary skill in the art would be

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apprised of the scope of the claims.³ See Allen Eng'g Corp. v. Bartell Indus. Inc., 299 F.3d 1336, 1348, 63 USPQ2d 1769, 1775 (Fed. Cir. 2002) (quoting Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998)) ("In determining whether the claim is sufficiently definite, we must analyze whether 'one skilled in the art would understand the bounds of the claim when read in light of the specification.'") See also, Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375, 60 USPQ2d 1272, 1276 (Fed. Cir. 2001) (citation omitted) (patent claims must be "sufficiently precise to permit a potential competitor to determine whether or not he is infringing").

Accordingly, the rejection under 35 U.S.C. § 112, second paragraph, is reversed.

We now turn to the prior art rejections.

In making a patentability determination, analysis must begin with the question, "what is the invention claimed?" since "[c]laim interpretation, . . . will normally control the remainder of the decisional process." Panduit Corp. v. Dennison

³We do, however, note that amendment of claim 8 to change the term "open area" to "hole area" would render the claim language more consistent with the remaining claims.

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Mfg. Co., 810 F.2d 1561, 1567-58, 1 USPQ2d 1593, 1597 (Fed. Cir.), cert. denied, 481 U.S. 1052 (1987). Where a reasonable interpretation of the claims cannot be made, it follows that it is impossible to compare the claimed invention with the prior art. See Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966) ("Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.") A rejection under 35 U.S.C. § 102 or § 103 cannot be based on speculations and assumptions. See In re Steele, 305 F.2d 859, 862-63, 134 USPQ 292, 295-96 (CCPA 1962) and In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

The initial burden of presenting a prima facie case of anticipation or obviousness rests on the examiner. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For the reasons set forth in detail below, we conclude that the examiner has failed to establish a prima facie case of anticipation or obviousness regardless of how the claims are interpreted. Thus, although we enter a new ground of rejection rejecting all of the pending claims under 35 U.S.C. § 112, second

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paragraph, we still reverse the examiner's prior art rejections of claims 2, 11-15 and 21-24.

Claim 2 stands rejected under 35 U.S.C. § 102(b) as anticipated by Stalego

A prior art reference may anticipate when the claim limitation or limitations not expressly found in that reference are nonetheless inherent in it. Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987). Under the principals of inherency, the prior art anticipates if it necessarily functions in accordance with, or includes, the claimed limitations. In re King, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986). However, arguments based on inherency cannot stand where there is no supporting teaching in the prior art. In re Spormann, 363 F.2d 444, 448, 150 USPQ 449, 452 (CCPA 1966). "Inherent anticipation requires that the missing descriptive material is 'necessarily present,' not merely probably or possibly present in the prior art." Trintec Indus. Inc. v. Top-U.S.A. Corp., 295 F.3d 1292, 1295, 63 USPQ2d 1597, 1599 (Fed. Cir. 2002) (citations omitted).

In rejecting claim 2, the examiner relies on his conclusion that "[o]ne can arbitrarily designate the various portions [of

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the screen] so that one of said end portions is smaller in area than the other of said end portions." See Examiner's Answer, page 5. However, the examiner fails to identify any teaching in the prior art which supports this conclusion. Accordingly, regardless of how claim 2 is interpreted, we cannot sustain the examiner's rejection since the examiner has failed to meet his burden of establishing a prima facie case of anticipation.

Rejections of claims 21 and 22 under 35 U.S.C. § 103 as unpatentable over Stalego, claims 23 and 24 under 35 U.S.C. § 103 as unpatentable over Marra, and claims 11-15 under 35 U.S.C. § 103 as unpatentable over Hill

"[T]he question under 35 U.S.C. 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the invention was made." In re Lamberti, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976). Even where a single prior art reference is relied upon to show obviousness, there must be a showing of a suggestion or motivation to modify the teaching of that reference to achieve the claimed invention. In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000). The suggestion or motivation to modify a reference may be implicit from the prior art as a whole rather than expressly stated. Id. However, regardless of whether the examiner relies on an express or

implicit showing, he must provide reasons for finding a limitation to be taught or suggested in the reference. Id.

The facts and reasons set forth by the examiner in rejecting the claims are incomplete, such that he has failed to establish a prima facie case of obviousness. Each of the rejections under 35 U.S.C. § 103 is based on conclusions made by examiner which are simply unsupported by the prior art. As noted above in connection with the rejection of claim 2, it is inappropriate for the examiner to "arbitrarily" define or redesignate various portions of the prior art apparatuses to achieve the claimed invention.⁴ It is also improper for the examiner to conclude that it would have been obvious to make various modifications of the prior art devices and methods to achieve the claimed invention based solely on his own opinion and absent identifying a teaching or suggestion in the prior art which supports his position.⁵ Further, comments made by the examiner such as

⁴Rejection of claims 21-22: "[O]ne can arbitrarily define the regions of the in situ Stalego bushing so that there are two end portions wherein one is closer to the channel than the other." Examiner's Answer, page 6. Rejection of claims 23-24: "[O]ne can arbitrarily redesignate the end portions so that one has only one hole." Id.

⁵Rejection of claims 11-15: "It would have been obvious to have them be the same thicknesses since they are nearly the same in other respects"; "It would have been obvious to take the

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"[t]his was not explained because there was no need to explain it" (id. at page 9) do not provide the Board with a basis for rendering a "reasoned decision."

Even if the claims were not indefinite under 35 U.S.C. § 112, second paragraph, the present record does not contain sufficient evidence for us to sustain the examiner's prior art rejections. The rejections under 35 U.S.C. §§ 102 and 103 are reversed.

New Ground of Rejection

Under the provisions of 37 CFR § 1.196(b) we enter the following new ground of rejection.

Claims 2, 4, 8-15 and 21-24 are rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the invention.

Various claim terms are indefinite in that they lack antecedent basis. See, e.g., claim 2, last line, "the channel"; claim 21, line 7, "said bushing," line 9, "the hole area," and line 10, "said channel". Claims 21 and 22 are indefinite in that, while purporting to be drawn to a method of forming fiber, they fail to set forth any discernible steps involved in the

middle values for each of the ranges because it is a good place to start." Id. at page 7.

claimed processes.⁶ Claims 23 and 24 are drafted in Jepson format and, therefore, impliedly admit that the recited fiberizing operation is old in the art. See generally, MPEP § 2129 (August, 2001). However, Jepson-type claims are still indefinite where, as here, it is unclear what steps are included in the admitted prior art method. It is impossible to determine from the specification and claims what steps are included in the recited "fiberizing operation". In addition, there are several instances wherein the alternative expression "and/or" is used thereby rendering the scope and meaning of the claims unclear. See claim 23, lines 8 and 10, claim 24, line 1. In particular, the relationship between the holes in the central portion and end portions of the screen is ambiguous.

The claims are further indefinite in that they use the relative term "closest to the channel" (claim 2, last line and claim 21, line 10) when the term "the channel" was not previously

⁶ Cf. Ex parte Erlich, 3 USPQ2d 1011 (Bd. Pat. App. & Int. 1986) (non-precedential) (citations omitted) ("While . . . the claims need not recite all of the operating details, we do find that a method claim should at least recite a positive, active step(s) so that the claim will 'set out and circumscribe a particular area with a reasonable degree of precision and particularity,' and make it clear what subject matter [the] claims encompass, as well as making clear the subject matter from which others would be precluded.") See generally, MPEP § 2173.05(q) (8th ed., Aug. 2001).

defined, thereby failing to provide a basis for comparison. See, supra, page 6. In addition, the meanings of various terms used in the claims are not readily apparent from the prior art or from the specification and drawings, for example, the term "channel positions" (claims 2, 21 and 23, line 2). The examiner and appellant should thoroughly review all claims to ensure that all indefiniteness problems are corrected.

It is well established that "definiteness of the language employed must be analyzed, not in a vacuum, but always in light of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art." In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). Section 112, second paragraph, requires that: (1) the claim set forth what "the applicant regards as his invention" and (2) the claim be sufficiently "definite." See Allen, 299 F.3d at 1348, 63 USPQ2d at 1775 (quoting Solomon v. Kimberly-Clark Corp., 216 F.3d 1372, 1377, 55 USPQ2d 1279, 1282 (Fed. Cir. 2000) (quoting 35 U.S.C. § 112, second paragraph)). When the present claims are viewed in light of this authority, it does not appear that one skilled in the art would be capable of determining their metes and bounds even when read in light of the specification. Therefore, we reject

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claims 2, 4, 8-15 and 21-24 under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention. See Allen, 299 F.3d at 1349, 63 USPQ2d at 1776 (citing In re Zletz, 893 F.2d 319, 322, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (claims which do not particularly point out and distinctly claim what the inventor regards as his invention must be rejected under Section 112, second paragraph)).

Time Period for Response

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .



(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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